UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,204	06/15/2001	Tanja Dominko	1954.0010001/EKS/PSC	5122

26111 7590 10/03/2002

STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W., SUITE 600
WASHINGTON, DC 20005-3934

EXAMINER
TON, THAIAN N

ART UNIT	PAPER NUMBER
1632	

DATE MAILED: 10/03/2002 11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/881,204	Applicant(s) DOMINKO ET AL.	
	Examiner Thaian N. Ton	Art Unit 1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-47 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-22, 44 and 45, drawn to methods of generating a pluripotent mammalian cell comprising the preparation of cytoplast fragments from a mammalian oocyte or fertilized zygote, fusion of a cytoplast fragment with a cell or karyoplast, classified in class 435, subclasses 325, 449, 450, class 800, subclass 25, for example.

II. Claims 1, 23 and 24, drawn to methods of generating a pluripotent mammalian cell, wherein the mitochondria of the donor cytoplast is made replication incompetent, classified in class 435, subclasses 325, 449, 450, class 800, subclass 25, for example.

III. Claims 1, 25-27 and 30, drawn to methods of generating a pluripotent mammalian cell, wherein the mitochondria is derived from the same species as the nuclear donor, are used to supplement the mitochondria present in the hybrid cell, classified in class 435, subclasses 325, 449, 450, class 800, subclass 25, for example.

IV. Claims 1, 20 and 28, drawn to methods of generating a pluripotent mammalian cell, wherein genes encoding mitochondrial maintenance factors are stably transfected into the cells used as nuclear donors, classified in class 435, subclasses 325, 449, 450, 455, class 800, subclass 25, for example.

V. Claims 1, 20 and 29, drawn to methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells, classified in class 435, subclasses 325, 449, 450, 455, class 800, subclass 25, for example.

VI. Claims 1, 31-35, drawn to methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription, classified in class 435, subclass 325, 383, 449, 450, class 800, subclass 25, for example.

VII. Claims 1, 36 and 37, drawn to methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

VIII. Claims 1, 36 and 38, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example

IX. Claims 1, 36 and 39, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

X. Claims 1, 36 and 40, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

XI. Claims 1, 36 and 41, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

XII. Claims 1, 36 and 42, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

XIII. Claims 1-35 and 43, drawn to methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer, classified in class 435, subclass 325, 377, 383, 449, 450, class 800, subclass 25, for example.

XIV. Claim 46, drawn to a method of preparing and enriching a population of pluripotent cells, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

XV. Claim 47, drawn to a method of preparing and enriching a population of pluripotent cells, classified in class 435, subclasses 325, 377, 383, 449, 450, class 800, subclass 25, for example.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and any of Inventions II-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell comprising the preparation of cytoplast fragments from a mammalian oocyte or fertilized zygote, fusion of a cytoplast fragment with a cell or karyoplast of Invention I are not required for the implementation of the methods of generating a pluripotent mammalian cell, wherein the mitochondria of the donor cytoplast is made replication incompetent of Invention II, the methods of generating a pluripotent mammalian cell, wherein the mitochondria is derived from the same species as the nuclear donor, are used to supplement the mitochondria present in the hybrid cell of Invention III, the methods of generating a pluripotent mammalian cell, wherein genes encoding mitochondrial maintenance factors are stably transfected into the cells used as nuclear donors of Invention IV, the methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells of Invention V, the methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence

of compounds or factors known to induce gene transcription of Invention VI, the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of

Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention II and any of Inventions III-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell, wherein the mitochondria of the donor cytoplast is made replication incompetent of Invention II are not required for the implementation of the methods of generating a pluripotent mammalian cell, wherein the mitochondria is derived from the same species as the nuclear donor, are used to supplement the mitochondria present in the hybrid cell of Invention III, the methods of generating a pluripotent mammalian cell, wherein genes encoding mitochondrial maintenance factors are stably transfected into the cells used as nuclear donors of Invention IV, the methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells of Invention V, the methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription of Invention VI, the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of

Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention III and any of Inventions IV-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell, wherein the mitochondria is derived from the same species as the nuclear donor, are used to supplement the mitochondria present in the hybrid cell of Invention III are not required for the implementation of the methods of generating a pluripotent

mammalian cell, wherein genes encoding mitochondrial maintenance factors are stably transfected into the cells used as nuclear donors of Invention IV, the methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells of Invention V, the methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription of Invention VI, the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the

pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention IV and any of Inventions V-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell, wherein genes encoding mitochondrial maintenance factors are stably transfected into the cells used as nuclear donors of Invention IV are not required for the implementation of the methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells of Invention V, the methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription of Invention VI, the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the

development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention V and any of Inventions VI-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell, wherein genes encoding modulators of histone acetylation and chromatin structure are transiently expressed in nuclear donor cells of Invention V are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein

already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription of Invention VI, the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of

Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention VI and any of Inventions VII-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein already established populations of hybrid-derived cells are cultured in the presence of compounds or factors known to induce gene transcription of Invention VI are not required for the implementation of the methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become

pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention VII and any of Inventions VIII-XV are mutually exclusive and independent. The methods to methods of generating a pluripotent mammalian cell wherein already established populations of HDCs are cultured in the presence of factors known to induce neural pathway differentiation of Invention VII are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein

the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention VIII and any of Inventions IX-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of c-kit and erythropoietin to induce the development of erythrocytes of Invention VIII are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the

pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention IX and any of Inventions X-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of macrophage colony stimulating factor to induce the development of macrophage precursors of Invention IX are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X, the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a

population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention X and any of Inventions XI-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of adipocytes of Invention X are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart vascular smooth muscle cells of Invention XI, the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention XI and any of Inventions XII-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are cultured in the presence of factors to induce the development of heart

vascular smooth muscle cells of Invention XI are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII, the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention XII and any of Inventions XIII-XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are co-cultured in the presence of cells from the pancreatic bud to induce the differentiation to become pancreatic cell precursors of Invention XII are not required for the implementation of the methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII, the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Invention XIII and either of Inventions XIV or XV are mutually exclusive and independent. The methods of generating a pluripotent mammalian cell wherein the HDCs are used as nuclear donors to clone an organism by nuclear transfer of Invention XIII are not required for the implementation of the method of preparing and enriching a population of pluripotent cells of Invention XIV, the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Inventions XIV and XV are mutually exclusive and independent. The method of preparing and enriching a population of pluripotent cells of Invention XIV are not required for the implementation of the method of preparing and enriching a population of pluripotent cells of Invention XV and vice versa. Furthermore, each method requires a separate and materially different protocol.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if

one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thaian N. Ton whose telephone number is (703) 305-1019. The examiner can normally be reached on Monday through Friday from 8:00 to 5:00 (Eastern Standard Time), with alternating Fridays off. Should the examiner be unavailable, inquiries should be directed to Deborah Reynolds, Supervisory Primary Examiner of Art Unit 1632, at (703) 305-4051. Any administrative or procedural questions should be directed to Patsy Zimmerman, Patent Analyst, at (703) 305-2758. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703)872-9306.

Deborah Crouch

DEBORAH CROUCH
PRIMARY EXAMINER
GROUP 1800 1630

TNT

Thaian N. Ton
Patent Examiner
Group 1632